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Introduction:
Beaumont Hospital is the Neurosurgical centre for Ireland serving a population of 3.6 million. We present data on all perinatal patients who required ICU admission for Neurosurgical conditions over an 8 year period. Our data presents an insight into the incidence and outcome of Neurosurgical conditions during pregnancy

Methods:
Searching our database identified 11 pregnant and 8 recently pregnant patients admitted to ICU with neurosurgical conditions. Patient data was collected retrospectively by review of charts and of an electronic database. A further 12 pregnant patients were admitted for Neurosurgical intervention but did not require critical care.

Results:
Intracranial haemorrhage was the most common diagnosis (5 subarachnoid haemorrhage and 5 had intra-cerebral haemorrhage). 6 patients presented with intracranial tumours and 1 patient had a traumatic brain injury. 1 patient was admitted post spinal tumour resection. 1 patient was referred with an ischemic stroke after iatrogenic injury to the carotid and vertebral artery. The requirement for organ support in this cohort of patients was high; 64% required ventilation and 45% inotropes. 13 patients underwent neurosurgical intervention & 6 medical treatment. 2 maternal deaths occurred at 16 & 37 weeks gestation. The modified Rankin Score (mRS) on discharge from hospital was ≤ 2 for 9 of the 17 surviving patients (median=3). Of the 11 pregnancies (all singleton) there were 3 foetal deaths. 1 patient miscarried spontaneously at 4 weeks, 1 had a medical termination of pregnancy at 12 weeks to facilitate chemotherapy and 1 foetus died after maternal death at 16 weeks. The 8 remaining patients delivered normal babies.

Conclusion:
Neurosurgical disease requiring ICU admission during pregnancy is rare; our data suggest an incidence of 1 case per 2 million population. Maternal outcomes were mixed with more than half having a mRS>2 on discharge. Foetal outcomes were good with only one miscarriage and good neurological outcome in all surviving infants.